

*The Behavior Analyst* is the official publication of the Association for Behavior Analysis (ABA), an international organization.

## EDITOR

Philip N. Chase  
*West Virginia University*

## ASSOCIATE EDITOR

Carol Pilgrim  
*University of North Carolina–Wilmington*

## MANAGING EDITOR

Kathy Hill

## EDITORIAL BOARD

David Born, *University of Kansas*  
Marc N. Branch, *University of Florida*  
Carlos Bruner, *National University of Mexico*  
Mecca Chiesa, *University of Paisley, Scotland*  
Thomas S. Critchfield, *Illinois State University*  
William Dube, *E. K. Shriver Center*  
Edmund Fantino, *University of California, San Diego*  
Sigrid S. Glenn, *University of North Texas*  
Bernard Guerin, *University of Waikato, New Zealand*

William L. Heward, *The Ohio State University*  
Christine Hughes, *University of North Carolina, Wilmington*  
Cloyd Hyten, *University of North Texas*  
Gregory J. Madden, *University of Wisconsin, Eau Claire*  
M. Jackson Marr, *Georgia Institute of Technology*  
Frances McSweeney, *Washington State University*  
Paolo Moderato, *Universita de Parma*  
Roy Moxley, *West Virginia University*  
David Palmer, *Smith College*

Martha Pelaez-Nogueras, *Florida International University*  
Raymond C. Pitts, *University of North Carolina, Wilmington*  
Hayne W. Reese, *West Virginia University*  
David Schaal, *West Virginia University*  
Hank Schlinger, *Los Angeles*  
Richard W. Serna, *E. K. Shriver Center*  
Stuart Vyse, *Connecticut College*  
Wendy Williams, *Central Washington University*  
Edelgard Wulfert, *SUNY, Albany*

## ANNOUNCEMENTS

Books Received .....	44
Guest Editor and Guest Reviewer.....	116
Instructions for Contributors .....	130
JEAB Contents, January 2000 .....	132
Books Available from the B. F. Skinner Foundation .....	133
Moving? .....	134
Call for Nominations: Division 25 Awards .....	135
Library Subscriptions .....	136
<i>Analysis of Verbal Behavior</i> Order Form.....	137
Advertising Information .....	138
ABA International Conference in Italy .....	139

## BOOKS RECEIVED

Please contact the editor, Philip N. Chase, if you are interested in reviewing any of the following books or other books that you think might be of interest to the readers of *The Behavior Analyst*. See the Spring 1999 issue for additional books received by the editor.

- Albert, S., & Bradley, K. (1997). *Managing knowledge: Experts, agencies, and organizations*. New York: Cambridge University Press.
- Chisholm, J. S. (1999). *Death, hope & sex: Steps to an evolutionary ecology of mind and morality*. New York: Cambridge University Press.
- Harris, S. L., & Weiss, M. J. (1998). *Right from the start: Behavioral intervention for young children with autism*. Bethesda, MD: Woodbine House.
- Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (1999). *Acceptance and commitment therapy: An experiential approach to behavior change*. New York: Guilford Press.
- Haynes, S. N., & O'Brien, W. H. (2000). *Principles and practice of behavioral assessment*. New York: Kluwer Academic/Plenum Publishers.
- Holmes, D. L. (1997). *Autism through the lifespan: The Eden Model*. Bethesda, MD: Woodbine House.
- Houston, A. I., & McNamara, J. M. (1999). *Models of adaptive behavior: An approach based on state*. New York: Cambridge University Press.
- Lattal, K. A., & Perone, M. (Eds.). (1998). *Handbook of research in human operant behavior*. New York: Plenum Press.
- McClannahan, L. E., & Krantz, P. J. (1999). *Activity schedules for children with autism: Teaching independent behavior*. Bethesda, MD: Woodbine House.



**Guest Editor for the Special Section on Private Events**

Robert Hawkins

**Guest Reviewer**

Patrick Friman

# INSTRUCTIONS FOR CONTRIBUTORS

## CONTENT OF *THE BEHAVIOR ANALYST*

*The Behavior Analyst* contains general interest articles on theoretical, experimental, and applied topics in behavior analysis. Articles on the past, present, and future of behavior analysis, as well as its relation to other fields, are particularly appropriate for the journal. *The Behavior Analyst* also publishes literature reviews, discussions of previously published work, reinterpretations of published data, and articles on behaviorism as a philosophy that are suitable to the general readership of the journal. Basic and applied experimental studies with original data, as well as technical articles on philosophy, should be submitted elsewhere.

## GUIDELINES FOR SUBMISSION

1. Submit an original and four clear copies of the complete manuscript.
2. The title page of each copy should include only the full title. The author(s) name(s), address(es), and any other identifying information must be omitted.
3. Provide three copies of a separate sheet including (a) any footnotes to the title (e.g., regarding acknowledgments), (b) the proper authorship and affiliation(s), (c) any footnote(s) to author name(s), (d) E-mail address, and (e) a list of at least four to six key words for indexing purposes.
4. You may also provide the names and addresses of three to five people outside of your institution whom you would recommend as qualified reviewers of your manuscript.

## EDITORIAL REVIEW

1. All manuscripts will be considered for suitability for publication in *The Behavior Analyst* by the Editor.
2. Reviewers are not sent the name or the institutional affiliation of the author.
3. Reviewers are selected by the editor handling the manuscript. At least three reviewers are selected, one or

more from the Editorial Board and the remainder selected as guest reviewers appropriate to the manuscript. Reviewer comments will be returned with any marked manuscripts and the editorial decision within approximately three to four months.

## STYLE

1. Use the active voice in preference to the passive voice. The active is usually shorter and more lively to read, and more clearly specifies the agent of action.
2. Be specific rather than general whenever possible. A phrase such as, "We need to arrange contingencies to reinforce desired behaviors" communicates little. Instead, tell who needs to do what so that a reader can visualize the action described.
3. Back up assertions. Statements such as "There is a growing trend in . . ." leave a reader asking "Why do you say that?" Document with examples or data.
4. Avoid overuse of the weak verbs "to be" or "to have" as the main verb of the sentence. Avoid use of indefinite pronouns as the subjects of sentences (e.g., "It is . . .," "This is . . ." or "There are . . .").
5. Refer to the American Psychological Association Publication Manual (4th ed.) for further guidelines regarding manuscript organization, writing and editorial style, references, and typing.

## MANUSCRIPT FORMAT

1. Prepare your manuscript in the form used by the American Psychological Association Publication Manual (4th ed.).
2. Type all sections double-spaced, including title, footnotes, and table headings. Put each table or figure on a labeled separate sheet. DO NOT enclose glossy black and white photographs of figures or illustrations.
3. Only underline words to be set in italics.



## ARTICLES

Articles generally range in length from 15 to 25 double-spaced manuscript pages (excluding references). Include an abstract with the submission.

## ON BOOKS

Suitable length for book reviews and commentary is 10 to 20 double-spaced manuscript pages.

## ON TERMS

A length of two to five double-spaced manuscript pages is suitable.

## IN RESPONSE

We encourage readers to submit comments in response to articles published in

*The Behavior Analyst* or in other journals with which our readers are likely to be familiar. Manuscript copy should not be longer than two double-spaced pages.

## OTHER SUBMISSIONS

If you have something you feel would interest our readers, please submit it even if it does not belong in any of the above categories.

Address manuscripts to:

Philip N. Chase  
Department of Psychology  
West Virginia University  
P.O. Box 6040  
Morgantown, WV 26506-6040

# Journal of the Experimental Analysis of Behavior

## EDITOR

Kennon A. Lattal

## EXECUTIVE EDITOR

Victor G. Laties

## ASSOCIATE EDITORS

William Baum

Mark Galizio

Leonard Green

Timothy Hackenberg

## EDITORS FOR

BEHAVIORAL

PHARMACOLOGY

Stephen T. Higgins

## REVIEW EDITOR

M. Jackson Marr

## BOARD OF EDITORS

Peter Balsam

Dermot Barnes-Holmes

Alan Baron

Daniel J. Bernstein

Marc Branch

Carlos A. Bruner

Russell M. Church

James D. Dougan

William V. Dube

Edmund Fantino

Mary T. Foster

Gregory Galbicka

John Glowa

Jennifer Higa

Christine Hughes

Peter Killeen

Stephen E. G. Lea

Alexandra W. Logue

Gregory J. Madden

James E. Mazur

Jack McDowell

William McIlvane

Frances McSweeney

Suzanne Mitchell

Jay Moore

Joel Myerson

Michael A. Nader

Allen Neuringer

J. Anthony Nevin

Chris Newland

Michael Perone

Mitchell Picker

Carol Pilgrim

Raymond Pitts

Howard Rachlin

Phil Reed

Richard Serna

Charles Shimp

Robert Stroman

Peter Urcuioli

Diana J. Walker

K. Geoffrey White

Dean C. Williams

Alice M. Young

Consider a subscription to the journal for original research relevant to the behavior of individual organisms. Review articles and theoretical papers also considered for publication. Six issues published yearly by the Society for the Experimental Analysis of Behavior.

- JANUARY 2000 -

**Neil Dugdale and C. Fergus Lowe.** Testing for symmetry in the conditional discriminations of language-trained chimpanzees.

**Jesse Dallery, J. J. McDowell, and Juliana S. Lancaster.** Falsification of matching theory's account of single-alternative responding: Herrnstein's  $k$  varies with sucrose concentration.

**Gregory J. Madden, Warren K. Bickel, and Eric A. Jacobs.** Three predictions of the economic concept of unit price in a choice context.

**Michael Davison and Douglas Elliffe.** Travel time and concurrent-schedule choice: Retrospective versus prospective control.

**Masato Ito, Sachifu Takaturu, and Daisuke Saeki.** Choice between constant and variable alternatives by rats: Effects of different reinforcer amounts and energy budgets.

**Paul Neuman, William H. Ahearn, and Philip N. Hineline.** Pigeon's choices between fixed-ratio and linear or geometric escalating schedules.

**D. E. McMillan and W. C. Hardwick.** Drug discrimination in rats under concurrent variable-interval schedules.

Enter your personal subscription before December 31 and receive all six 2000 issues. And make certain your library subscribes. Individuals (personal use only), \$28.00; institutions, \$122.00. Subscribers outside the U.S. should add \$10.00 for postage. Please send orders and checks (payable to JEAB) to

JEAB, Devonia Stein  
Psychology Department  
Indiana University  
Bloomington, IN 47405-1301 USA

*VISA and MasterCard orders are accepted.*





## Books Available from the B. F. Skinner Foundation

The Behavior of Organisms (softcover).....	\$20.00
The Behavior of Organisms (hardcover).....	\$30.00
Verbal Behavior.....	\$20.00
Schedules of Reinforcement (with Ferster).....	\$20.00
Cumulative Record (softcover).....	\$20.00
Cumulative Record (hardcover).....	\$30.00
Principles of Psychology (Keller & Schoenfeld).....	\$20.00

Order Form			
Book	Qty.	Cost	Total
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----
Shipping & Handling			-----
\$6.00 per hardcover			
\$5.00 per softcover			
Total			-----

Mail checks to: B. F. Skinner Foundation  
P.O. Box 84  
Morgantown, WV 26507

[www.bfskinner.org](http://www.bfskinner.org)  
[bfsf@wvu.edu](mailto:bfsf@wvu.edu)  
(304) 293-2146

B.A.

## **Moving?**

### **Have you moved recently?**

Send your new mailing address to:

***The Behavior Analyst***  
**Association for Behavior Analysis**  
**213 West Hall**  
**Western Michigan University**  
**1201 Oliver St.**  
**Kalamazoo, MI 49008-5052**

Allow 4–6 weeks for processing.

Please be sure that *The Behavior Analyst* is mailed to a secure address. The Association for Behavior Analysis is not responsible for journals mailed to, but not received by, a subscriber. If you require a replacement copy due to a change of address, send \$5.00 (U.S. funds only) with your new address.



## **NOMINATIONS SOUGHT FOR DIVISION 25 AWARDS**

Division 25 of the American Psychological Association requests nominations for its annual awards for distinguished contributions to behavior analysis. There are now six awards:

***Dan Hake Basic/Applied Research Award***—For distinguished research that bridges the basic/applied continuum of behavior analysis and represents the cross-fertilization of both fields.

***Fred S. Keller Behavioral Education Award***—For distinguished contributions to behavioral education.

***B. F. Skinner New Research Award***—For innovative and important research in behavior analysis within the first seven years after receiving a doctorate.

***Outstanding Basic Research***—For innovative and important research that improves understanding of basic behavioral processes.

***Outstanding Applied Research***—For innovative and important research on applications of behavioral principles to address socially significant human behavior.

***Outstanding Dissertation on Basic Learning Process Award***—For excellent dissertation research in basic behavior analysis.

### **NOMINATION PROCEDURE**

Nominations for the Hake, Skinner, Keller, Basic Research, and Applied Research Awards may be made by sending at least one letter of nomination for the award and a copy of the nominee's curriculum vita to Patrick C. Friman, Dept. of Clinical Services and Research, Youthcare Building, Boys Town, NE 68010. Telephone: (402) 498-3353; FAX: (402) 498-3375; E-mail: [frimanp@boystown.org](mailto:frimanp@boystown.org).

Nominations for the Dissertation Award require one copy of the dissertation, a supporting letter from the dissertation adviser, and the nominee's curriculum vita. Nomination materials should be sent to Randolph Grace, Department of Psychology, University of Canterbury, Private Bag 4800, Christchurch, New Zealand. Telephone: (64) (03) 364-2987 ext. 7996; FAX: (64) (03) 364-2818; E-mail: [r.grace@psyc.canterbury.ac.nz](mailto:r.grace@psyc.canterbury.ac.nz).

ALL NOMINATIONS MUST BE RECEIVED BY JUNE 15, 2000.

## Does your library subscribe to *The Behavior Analyst* and *Analysis of Verbal Behavior*?

*No? Then give this form to your reference librarian.*

### ***The Behavior Analyst***

*The Behavior Analyst* (ISSN 0738-6729) is the official publication of the Association for Behavior Analysis. It is devoted to the dissemination of information about behavior analysis. As such, *The Behavior Analyst* publishes mainly conceptual and integrative articles, though it accepts book reviews and other items of general interest to behavior analysts.

If your not reading *The Behavior Analyst*, you may be missing out of some of the most interesting and valuable information in the field of behavior analysis today.

### ***Analysis of Verbal Behavior***

If you're interested in a behavioral analysis of verbal behavior, *The Analysis of Verbal Behavior* is the ideal journal for you. No other journal offers this unique contribution to the behavioral literature.

*The Analysis of Verbal Behavior* (ISSN 0880-9401) publishes original papers relevant to the elementary verbal operants, autoclitics, multiple control, private events, rule-governed behavior, epistemology, scientific verbal behavior, language acquisition, language assessment and training, second languages, pedagogy, the verbal behavior of nonhumans, and verbal behavior research methodology.

### ***To be filled out by employee or faculty member:***

**I would like to request that our library purchase the back issues and obtain an annual subscription to the following journal(s):**

- ☐ The Behavior Analyst (ISSN 0738-6729)
- ☐ Analysis of Verbal Behavior (ISSN 0880-9401)

Name: \_\_\_\_\_

Department: \_\_\_\_\_

Signature: \_\_\_\_\_

### ***To be filled out by the reference librarian:***

- ☐ *The Behavior Analyst* (ISSN 0738-6729) Volumes 1-22: \$639 (plus \$15.00 domestic shipping or \$67.00 international shipping)
- ☐ *Analysis of Verbal Behavior* (ISSN 0880-9401) Volumes 1-15: \$658 (plus \$15.00 domestic shipping or \$65.00 international shipping)

Institution Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Country: \_\_\_\_\_

Payment: ☐ Check (payable to ABA) ☐ Purchase Order ☐ Visa ☐ American Express ☐ MasterCard

PO# / Credit Card #: \_\_\_\_\_ Expiration: \_\_\_\_\_

Signature: \_\_\_\_\_

Further subscription and back issue information can be obtained by contacting the Association for Behavior Analysis, 213 West Hall, Western Michigan University, 1201 Oliver Street, Kalamazoo, MI 49008-5052.

Phone: 616-387-8341/8342/8344. Fax: 616-387-8354.



## Analysis of Verbal Behavior Order Form

Make checks payable to: ABA, 213 West Hall, Western Michigan University,  
1201 Oliver St, Kalamazoo, MI 49008-5052

Phone: (616) 387-8341/8342 Fax: (616) 387-8354 E-mail 76236.1312@compuserve.com

Prices include shipping and handling

	Unit Cost			Quantity	Total Cost
	Individual	Student	Institution		
<i>Separate Volumes</i>					
Volume 17 (available in May, 2000).....	\$ 23.00	\$ 16.00	\$ 53.00	x _____	= \$ _____
Volume 16 .....	\$ 23.00	\$ 16.00	\$ 53.00	x _____	= \$ _____
Volume 15 .....	\$ 23.00	\$ 16.00	\$ 53.00	x _____	= \$ _____
Volume 14 .....	\$ 23.00	\$ 16.00	\$ 53.00	x _____	= \$ _____
Volume 13 .....	\$ 23.00	\$ 16.00	\$ 53.00	x _____	= \$ _____
Volume 12 .....	\$ 23.00	\$ 16.00	\$ 53.00	x _____	= \$ _____
Volume 11 .....	\$ 23.00	\$ 16.00	\$ 53.00	x _____	= \$ _____
Volume 10 .....	\$ 23.00	\$ 16.00	\$ 53.00	x _____	= \$ _____
Volume 9 .....	\$ 23.00	\$ 16.00	\$ 53.00	x _____	= \$ _____
Volume 8 .....	\$ 23.00	\$ 16.00	\$ 53.00	x _____	= \$ _____
Volume 7 .....	\$ 23.00	\$ 16.00	\$ 53.00	x _____	= \$ _____
Volume 6 .....	\$ 23.00	\$ 16.00	\$ 53.00	x _____	= \$ _____
Volume 5 .....	\$ 23.00	\$ 16.00	\$ 53.00	x _____	= \$ _____
Volume 4 .....	\$ 23.00	\$ 16.00	\$ 53.00	x _____	= \$ _____
Volume 1, 2, & 3 bound together .....	\$ 23.00	\$ 16.00	\$ 53.00	x _____	= \$ _____
* International Shipping Fee, per volume.....	\$ 4.00	\$ 4.00	\$ 4.00	x _____	= \$ _____
<i>Complete Set</i>					
Volumes 1-15 .....	\$ 168.00.....	\$ 168.00	\$ 658.00	x _____	= \$ _____
* International Shipping Fee, complete set	\$ 65.00.....	\$ 65.00	\$ 65.00	x _____	= \$ _____
SUBTOTAL .....					\$ _____
6% Sales Tax (Michigan Residents Only) .....					SUBTOTAL x .06 = _____
TOTAL .....					\$ _____

Name: \_\_\_\_\_ Affiliation: \_\_\_\_\_

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Country: \_\_\_\_\_ ZIP Code: \_\_\_\_\_

Credit Card #: \_\_\_\_\_ Expiration: \_\_\_\_\_

☐ Visa ☐ MasterCard ☐ American Express Signature: \_\_\_\_\_

### Subscribe now!

If you are interested in a behavioral analysis of language, *The Analysis of Verbal Behavior* is the ideal journal for you. No other journal offers this unique contribution to the empirical and conceptual analysis of verbal behavior.

*The Analysis of Verbal Behavior* (ISSN 0880-9401) publishes original papers relevant to the elementary verbal operants, autoclitics, multiple control, private events, rule-governed behavior, epistemology, scientific verbal behavior, language acquisition, language assessment and training, second languages, pedagogy, the verbal behavior of nonhumans, and verbal behavior research methodology.

If you are not reading *AVB*, you may be missing out of some of the most interesting and valuable information in the field of behavior analysis today.

## Advertising Information

*The Behavior Analyst* and *The Analysis of Verbal Behavior* provide a unique advertising vehicle for reaching the rapidly growing population of behavioral psychologists. Although the majority of our subscribers are located in the United States, we also have subscribers in Japan, England, Ireland, Belgium, Switzerland, The Netherlands, Greece, Australia, New Zealand, Canada, Mexico, and many South American countries. *The Behavior Analyst* and *The Analysis of Verbal Behavior* provide excellent opportunities to advertise graduate and special programs in behavioral psychology, as well as books, manuals, journals, conferences, and equipment. *The Behavior Analyst* and *The Analysis of Verbal Behavior* accept advertisements only from nonprofit organizations.

To include your ad in the next issues of *The Behavior Analyst* or *The Analysis of Verbal Behavior*, send a camera-ready (or laser quality) copy for each advertisement in each journal to the Association for Behavior Analysis, ATTN: TBA/TAVB Advertising, 213 West Hall, Western Michigan University, 1201 Oliver St., Kalamazoo, MI 49008-5052. Make checks payable (U.S. funds only) to "ABA."

<i>Ad Size</i>	<i>Cost</i>
Full-page, 6" × 9"	\$210
Half-page, 6" × 4"	\$130

Price includes an advertisement in a single issue of one of the above journals; please indicate which journal. For information on exchange advertisements, contact the ABA office at the address given above, or call (616) 387-8341/8342/8344.



# ASSOCIATION FOR BEHAVIOR ANALYSIS INTERNATIONAL

## CONFERENCE IN ITALY

NOVEMBER 28-30, 2001

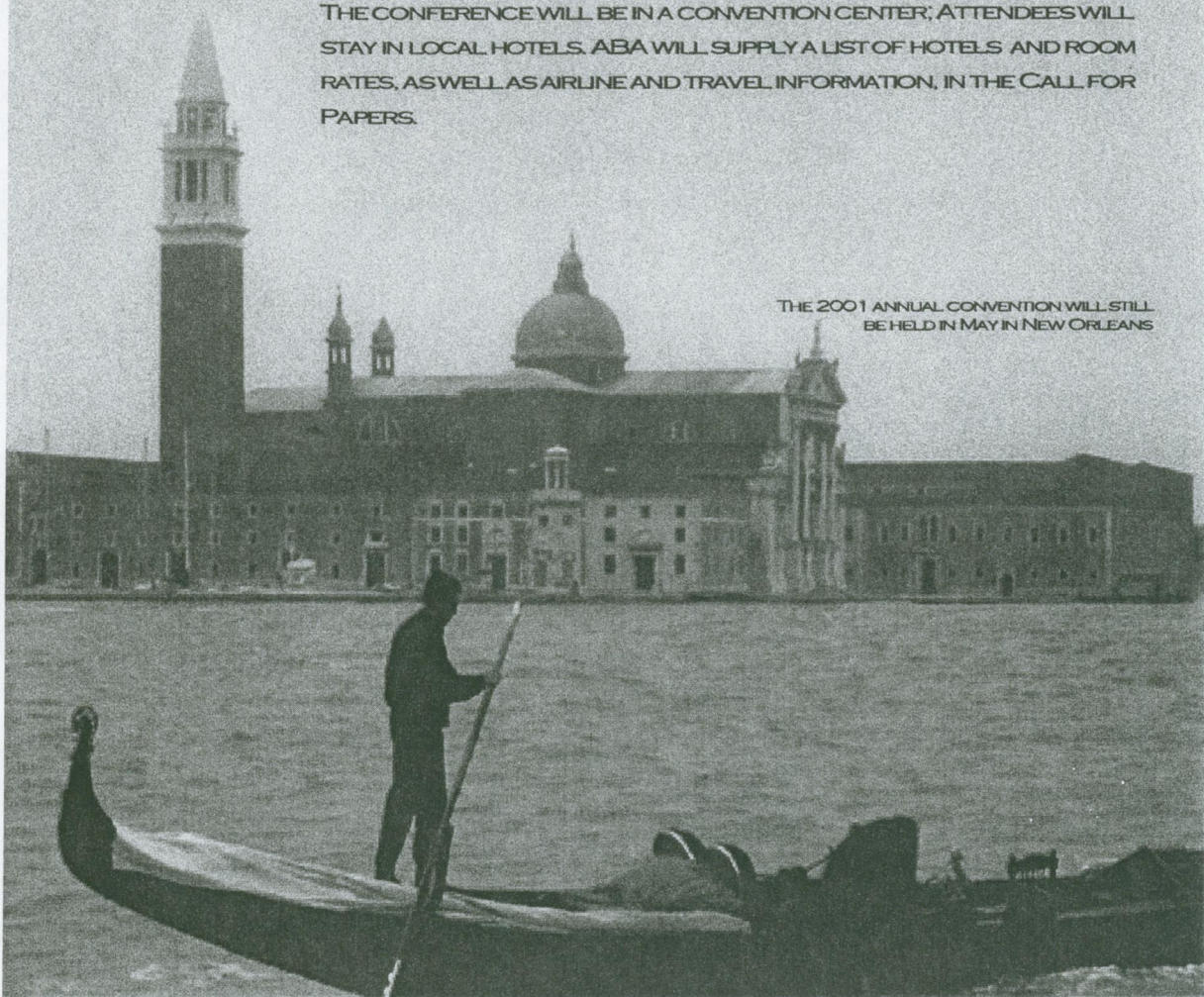
WHERE: VENICE, ITALY ON ST. GIORGIO ISLAND

REGISTER: AT THE 2000 ABA CONVENTION AT THE INTERNATIONAL EXPO DISPLAY  
IN THE SPRING/SUMMER ABA NEWSLETTER  
IN THE 2001 CONVENTION NEWSLETTER  
AT THE 2001 ABA CONVENTION IN NEW ORLEANS

CALL FOR PAPERS: MAILED SEPTEMBER 2000

THE CONFERENCE WILL BE IN A CONVENTION CENTER; ATTENDEES WILL STAY IN LOCAL HOTELS. ABA WILL SUPPLY A LIST OF HOTELS AND ROOM RATES, AS WELL AS AIRLINE AND TRAVEL INFORMATION, IN THE CALL FOR PAPERS.

THE 2001 ANNUAL CONVENTION WILL STILL BE HELD IN MAY IN NEW ORLEANS





# **THE ASSOCIATION FOR BEHAVIOR ANALYSIS**

## **EXECUTIVE COUNCIL**

Masaya Sato, Past President  
Gina Green, President  
Carol Pilgrim, President-Elect

## **COUNCIL MEMBERS**

Jon S. Bailey	James Johnston
Peter-Cornelius Dams	Jay Moore
Michael Davison	Meeta Patel
Amy Elliott	Michael Perone

## **EXECUTIVE DIRECTOR SECRETARY-TREASURER**

Maria E. Malott

## **JOURNAL PUBLICATION BOARD**

Mark L. Sundberg, Coordinator  
Philip N. Chase  
Henry Schlinger

Copyright 2000 by the Association for Behavior Analysis. Information on reproduction for scientific and scholarly purposes of any material published in the journal can be obtained by writing to ABA, 213 West Hall, Western Michigan University, Kalamazoo, Michigan 49008-5052.

*The Behavior Analyst* is listed in *Current Contents/Social & Behavioral Sciences*, *Social Sciences Citation Index*, and *Psychological Abstracts*.

*The Behavior Analyst* is a biannual publication of the Association for Behavior Analysis. Institutional, individual, and student subscription rates are available. Please see the subscription form in this issue.

Statements contained in *The Behavior Analyst* are the personal views of the authors and do not constitute ABA policy unless so indicated. ABA reserves the right to edit all copy. The publication of any advertisement in *The Behavior Analyst* does not constitute an endorsement of the advertiser or of the products and/or services advertised.